AUTHOR INDEX TO VOLUME 29 (1988)

Anderson, J.E., see Harrison, S.C. (29) 31
Asai, H., see Kagawa, H. (29) 327
Axelsen, P.H., see Ilich, P. (29) 341

Baumeister, W., Wildhaber, I. and Engelhardt, H.
Bacterial surface proteins. Some structural, functional and evolutionary aspects (29) 39
Bendzko, P.I., Pfeil, W.A., Privalov, P.L. and Tiktopulo, E.I.
Temperature-induced phase transitions in proteins and lipids. Volume and heat capacity effects (29) 301
Brabec, V. and Vučelič, D.
Adsorption of human β_2-microglobulin at a water/mercury interface (29) 271
Buckin, V.A.
Hydration of nucleic bases in dilute aqueous solutions. Apparent molar adiabatic and isothermal compressibilities, apparent molar volumes and their temperature slopes at 25°C (29) 283

Cao, T., see Chen, G. (29) 147
Campion, E., see Vincent, C. (29) 161
Cannistraro, S., see Fini, C. (29) 225
Chen, G., Tan, R., Gong, Z., Huang, Y., Wang, S. and Cao, T.
Paramyosin and the catch mechanism (29) 147
Crowl-Powers, M.L., see Zimmerman, J.K. (29) 231

Decroly, O., see Goldbeter, A. (29) 211
De Gómez-Puyou, M.T., see Martins, O.B. (29) 111
Di Cera, E. and Gill, S.J.
On the determination of species fractions from ligand-binding data. Application to human hemoglobin (29) 351
Dolcet, C. and Tarazona, M.P.
Dependence of some conformational properties of polyglycine on composition and sequence of secondary structure (29) 253
Douzou, P., see Vincent, C. (29) 161

Eaton, W.A., see Murray, L.P. (29) 63
Ebashi, S. and Ogawa, Y.
Ca^{2+} in contractile processes (29) 137
Eddy, A.A., Hopkins, P. and Johnson, E.
Some novel aspects of the relationship between the amino acid gradient and the sodium electrochemical gradient in mouse ascites tumour cells (29) 119
Engelhardt, H., see Baumeister, W. (29) 39

Fernández, A.
The onset of macroscopically detectable amplification of template concentration for self-replicating RNA (29) 317
Fini, C., Floridi, A. and Cannistraro, S.
ESR study of 5′-nucleotidase from bull seminal plasma (29) 225
Floridi, A., see Fini, C. (29) 225
Fontana, A.
Structure and stability of thermophilic enzymes. Studies on thermolysin (29) 181
Fujimoto, T., see Yoshikawa, K. (29) 293

Gage, P.W.
Ion channels and postsynaptic potentials (29) 95
Giaever, G.N., Snyder, L. and Wang, J.C.
DNA supercoiling in vivo (29) 7
Gill, S.J., see Di Cera, E. (29) 351
Goldberg, R.N., see Tewari, Y.B. (29) 245
Goldbeter, A., Decroly, O., Li, Y.X., Martiel, J.L. and Moran, F.
Finding complex oscillatory phenomena in biochemical systems. An empirical approach (29) 211
Gómez-Puyou, A., see Martins, O.B. (29) 111
Gong, Z., see Chen, G. (29) 147

Häder, D.-P.
Signal perception and amplification in photoresponses of cyanobacteria (29) 155
Harrison, S.C., Anderson, J.E., Koudelka, G.B., Mondragon, A., Subbiah, S., Wharton, R.P., Wolberger, C. and Ptashne, M.
Recognition of DNA sequences by the repressor of bacteriophage 434 (29) 31
Heinz, E., see Kinne, R. (29) 105
Henry, E.R., see Murray, L.P. (29) 63
Hofrichter, J., see Murray, L.P. (29) 63
Hopkins, P., see Eddy, A.A. (29) 119
Huang, Y., see Chen, G. (29) 147

Ilich, P., Axelsen, P.H. and Prendergast, F.G.
Electronic transitions in molecules in static external fields. I. Indole and Trp-59 in ribonuclease T_1 (29) 341
Ishii, T., see Yoshikawa, K. (29) 293

Johnson, E., see Eddy, A.A. (29) 119

Kagawa, H., Nagai, Y. and Asai, H.
An analysis of the hyper-sharp phenomenon of myosin diffusion in an F-actin/ATP solution by computer simulation (29) 327
Kellenberger, E.
About the organisation of condensed and decondensed non-eukaryotic DNA and the concept of vegetative DNA (a critical review) (29) 51
Keszthelyi, L.
Primary charge motions and light-energy transduction in bacteriorhodopsin (29) 127
Kinne, R., Sommerfeld, D. and Heinz, E.
Modulation of sodium-cotransport systems by other ions (29) 105
Kondo, T., see Ohshima, H. (29) 277
Koudelka, G.B., see Harrison, S.C. (29) 31
Kozielski, M., see Wróbel, D. (29) 309
Kumazawa, N., see Yoshikawa, K. (29) 293

Li, Y.X., see Goldbeter, A. (29) 211

Martiel, J.L., see Goldbeter, A. (29) 211
Martins, O.B., Gómez-Puyou, A. and Tuena de Gómez-Puyou, M.
Properties and regulation of the H^+-ATP synthase of mitochondria (29) 111
Ménard, R. and Zador, M.
Kinetic and thermodynamic investigation of the (dien)Pd(II)-polycytidylic acid system (29) 263
Mondragon, A., see Harrison, S.C. (29) 31
Moran, F., see Goldbeter, A. (29) 211
Murray, L.P., Hofrichter, J., Henry, E.R. and Eaton, W.A.
Time-resolved optical spectroscopy and structural dynamics following photodissociation of carbonmonoxyhemoglobin (29) 63

Nagai, Y., see Kagawa, H. (29) 327

Ogawa, Y., see Ebashi, S. (29) 137
Ohshima, H. and Kondo, T.
Membrane potential and Donnan potential (29) 277

Pajot-Augy, E., see Vincent, C. (29) 161
Parnas, H., see Parnas, I. (29) 85
Parnas, I. and Parnas, H.
The 'Ca-voltage' hypothesis for neurotransmitter release (29) 85
Parry, D.A.D.
The molecular and fibrillar structure of collagen and its relationship to the mechanical properties of connective tissue (29) 195
Pfeil, W.A., see Bendzko, P.I. (29) 301
Prendergast, F.G., see Ilich, P. (29) 341
Privalov, P.L., see Bendzko, P.I. (29) 301
Prulière, G., see Vincent, C. (29) 161
Ptashne, M., see Harrison, S.C. (29) 31

Rabczenko, A., see Zielenkiewicz, P. (29) 219
Rosenbusch, J.P.
Ion transport across biological membranes. Diffusion in water solution or conduction in the solid state? (29) 79

Shimooka, T., see Yoshikawa, K. (29) 293
Snyder, L., see Giaever, G.N. (29) 7
Sommerfeld, D., see Kinne, R. (29) 105
Subbiah, S., see Harrison, S.C. (29) 31

Tan, R., see Chen, G. (29) 147
Tarazona, M.P., see Dolcet, C. (29) 253
Terada, H., see Yoshikawa, K. (29) 293
Tewari, Y.B. and Goldberg, R.N.
Thermodynamics of the conversion of penicillin G to phenylacetic acid and 6-aminopenicillanic acid (29) 245
Tiktopulo, E.I., see Bendzko, P.I. (29) 301
Tuena de Gómez-Puyou, M., see Martins, O.B. (29) 111

Vincent, C., Prulière, G., Pajot-Augy, E., Campion, E. and Douzou, P.
Biophysical chemical aspects of cellular cryobehavior (29) 161
Vučelič, D., see Brabec, V. (29) 271

Wang, J.C., see Giaever, G.N. (29) 7
Wang, S., see Chen, G. (29) 147
Wharton, R.P., see Harrison, S.C. (29) 31
Wildhaber, I., see Baumeister, W. (29) 39
Wittmann, H.G., see Yonath, A. (29) 17
Wolberger, C., see Harrison, S.C. (29) 31
Wróbel, D. and Kozielski, M.
Resonance Raman spectra of chlorophylls dissolved in liquid crystal matrices. II. Order parameters of chlorophyll *a* in an MBBA + EBBA liquid crystalline mixture (29) 309

Yonath, A. and Wittmann, H.G.
Approaching the molecular structure of ribosomes (29) 17
Yoshikawa, K., Fujimoto, T., Shimooka, T., Terada, H., Kumazawa, N. and Ishii, T.
Electrical oscillation and fluctuation in phospholipid membranes. Phospholipids can form a channel without protein (29) 293

Zador, M., see Ménard, R. (29) 263
Zielenkiewicz, P. and Rabczenko, A.
Methods of molecular modelling of protein-protein interactions (29) 219
Zimmerman, J.K. and Crowl-Powers, M.L.
The determination of equilibrium constants for heterogeneous macromolecular interactions (29) 231
Zuber, H.
Temperature adaptation of lactate dehydrogenase. Structural, functional and genetic aspects (29) 171

SUBJECT INDEX TO VOLUME 29 (1988)

Action potential
Axonal membrane; Ion channel; Na^+ flux; Solid-state conductance (Rosenbusch, J.P. (29) 79)

Active diffusion
Muscle contraction; Myosin; Hyper-sharp phenomenon; Computer simulation; Random walk (Kagawa, H. (29) 327)

Actomyosin
Ca^{2+} regulation; Ca^{2+}-receptor protein; Troponin; Calmodulin; Cytoplasmic streaming; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Aggregation sensitivity
DNA; DNA-containing plasma; Prokaryotic nucleosome; Histone-like protein; Chromatin (Kellenberger, E. (29) 51)

Amino acid gradient
Na^+ electrochemical gradient; (Mouse ascites tumour cell) (Eddy, A.A. (29) 119)

6-Aminopenicillanic acid
Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Apparent molar compressibility
Nucleic acid hydration; Ultrasound velocity; Apparent molar volume; Hydration shell; Nucleic base (Buckin, V.A. (29) 283)

Apparent molar volume
Nucleic acid hydration; Ultrasound velocity; Apparent molar compressibility; Hydration shell; Nucleic base (Buckin, V.A. (29) 283)

Association constant
Macromolecular interaction; Light scattering (Zimmerman, J.K. (29) 231)

H^+-ATP synthase
Mitochondria; ATP synthesis (Martins, O.B. (29) 111)

ATP synthesis
H^+-ATP synthase; Mitochondria (Martins, O.B. (29) 111)

Axonal membrane
Action potential; Ion channel; Na^+ flux; Solid-state conductance (Rosenbusch, J.P. (29) 79)

Bacterial surface protein
Outer membrane protein; Electron microscopy; Shape determination; Macromolecular recognition (Baumeister, W. (29) 39)

Bacteriorhodopsin
Retinal; Light-energy transduction; Photocurrent; Proton conduction; Bioenergetics (Keszthelyi, L. (29) 127)

Biochemical kinetics
Qβ-replicase; Template-instructed replication; Stochastic center manifold treatment (Fernández, A. (29) 317)

Bioenergetics
Bacteriorhodopsin; Retinal; Light-energy transduction; Photocurrent; Proton conduction (Keszthelyi, L. (29) 127)

Biopolymer
Cryobehavior; Cryoprotectant; Water; Gelation (Vincent, C. (29) 161)

Birhythmicity
Oscillatory enzyme; Bursting; Chaos (Goldbeter, A. (29) 211)

Bursting
Oscillatory enzyme; Birhythmicity; Chaos (Goldbeter, A. (29) 211)

Ca^{2+} channel
Neurotransmitter release; Membrane potential (Parnas, I. (29) 85)

Ca^{2+}-receptor protein
Ca^{2+} regulation; Troponin; Calmodulin; Actomyosin; Cytoplasmic streaming; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Ca^{2+} regulation
Ca^{2+}-receptor protein; Troponin; Calmodulin; Actomyosin; Cytoplasmic streaming; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Calmodulin
Ca^{2+} regulation; Ca^{2+}-receptor protein; Troponin; Actomyosin; Cytoplasmic streaming; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Calorimetry
6-Aminopenicillanic acid; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Catch mechanism
Paramyosin; Filament network; Phosphorylation; Catch state; Relaxed state (Chen, G. (29) 147)

Catch state
Paramyosin; Catch mechanism; Filament network; Phosphorylation; Relaxed state (Chen, G. (29) 147)

Chaos
Oscillatory enzyme; Birhythmicity; Bursting (Goldbeter, A. (29) 211)

Chlorophyll *a*
Polarized resonance Raman spectrum; Liquid crystal; Order parameter; Distribution function (Wróbel, D. (29) 309)

Chromatin
DNA; DNA-containing plasma; Prokaryotic nucleosome; Histone-like protein; Aggregation sensitivity (Kellenberger, E. (29) 51)

Codon/anticodon
Thermophilic enzyme; Temperature adaptation; Lactate dehydrogenase; Evolution; Genetic code (Zuber, H. (29) 171)

Collagen structure
Connective tissue; Mechanical properties; X-ray diffraction; Molecular packing; Fibril size distribution (Parry, D.A.D. (29) 195)

Computer simulation
Muscle contraction; Myosin; Active diffusion; Hyper-sharp phenomenon; Random walk (Kagawa, H. (29) 327)

Connective tissue
Collagen structure; Mechanical properties; X-ray diffraction; Molecular packing; Fibril size distribution (Parry, D.A.D. (29) 195)

Cryobehavior
Cryoprotectant; Water; Biopolymer; Gelation (Vincent, C. (29) 161)

Cryoprotectant
Cryobehavior; Water; Biopolymer; Gelation (Vincent, C. (29) 161)

Cyanobacteria
Electric gradient; Gating channel; Phobic response; Phototaxis; Proton-motive force; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Cytoplasmic streaming
Ca^{2+} regulation; Ca^{2+}-receptor protein; Troponin; Calmodulin; Actomyosin; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Data analysis
Ligand binding; Hemoglobin (Di Cera, E. (29) 351)

Differential capacitance
β_2-Microglobulin; Interfacial properties; Protein unfolding; Water/mercury interface (Brabec, V. (29) 271)

Differential scanning calorimetry
Protein denaturation; Lipid melting; Heat capacity; Phase transition (Bendzko, P.I. (29) 301)

Dipole moment
Mean squared optical anisotropy; Molar Kerr constant; Polyglycine; Secondary structure; Unperturbed dimensions (Dolcet, C. (29) 253)

Distribution function
Chlorophyll *a*; Polarized resonance Raman spectrum; Liquid crystal; Order parameter (Wróbel, D. (29) 309)

DNA
DNA-containing plasma; Prokaryotic nucleosome; Histone-like protein; Aggregation sensitivity; Chromatin (Kellenberger, E. (29) 51)

intracellular DNA
DNA topoisomerase; DNA supercoiling; Structural transition (Giaever, G.N. (29) 7)

DNA-containing plasma
DNA; Prokaryotic nucleosome; Histone-like protein; Aggregation sensitivity; Chromatin (Kellenberger, E. (29) 51)

DNA-protein binding
DNA sequence recognition; X-ray crystallography; Repressor-operator complex; Transcriptional regulation (Harrison, S.C. (29) 31)

DNA sequence recognition
DNA-protein binding; X-ray crystallography; Repressor-operator complex; Transcriptional regulation (Harrison, S.C. (29) 31)

DNA supercoiling
DNA topoisomerase; intracellular DNA; Structural transition (Giaever, G.N. (29) 7)

DNA topoisomerase
DNA supercoiling; intracellular DNA; Structural transition (Giaever, G.N. (29) 7)

Donnan potential
Membrane potential (Ohshima, H. (29) 277)

Electric gradient
Cyanobacteria; Gating channel; Phobic response; Phototaxis; Proton-motive force; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Electrogenicity
Na^+-glutamate cotransport; K^+; H^+; Rate limitation; Ion channel (Kinne, R. (29) 105)

Electronic transition
Tryptophan; Ribonuclease T_1; Quantum-mechanical calculation (Ilich, P. (29) 341)

Electron microscopy
Bacterial surface protein; Outer membrane protein; Shape determination; Macromolecular recognition (Baumeister, W. (29) 39)

Enthalpy
6-Aminopenicillanic acid; Calorimetry; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Entropy
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Equilibrium constant
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

ESR
5′-Nucleotidase; Spin labeling (Fini, C. (29) 225)

Evolution
Thermophilic enzyme; Temperature adaptation; Lactate dehydrogenase; Codon/anticodon; Genetic code (Zuber, H. (29) 171)

Excitation
Spontaneous oscillation; Langmuir-Blodgett film (Yoshikawa, K. (29) 293)

Fibril size distribution
Collagen structure; Connective tissue; Mechanical properties; X-ray diffraction; Molecular packing (Parry, D.A.D. (29) 195)

Filament network
Paramyosin; Catch mechanism; Phosphorylation; Catch state; Relaxed state (Chen, G. (29) 147)

Gating channel
Cyanobacteria; Electric gradient; Phobic response; Phototaxis; Proton-motive force; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Gelation
Cryobehavior; Cryoprotectant; Water; Biopolymer (Vincent, C. (29) 161)

Genetic code
Thermophilic enzyme; Temperature adaptation; Lactate dehydrogenase; Codon/anticodon; Evolution (Zuber, H. (29) 171)

Gibbs energy
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Heat capacity; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

H^+
Na^+-glutamate cotransport; K^+; Electrogenicity; Rate limitation; Ion channel (Kinne, R. (29) 105)

Heat capacity
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; HPLC; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Protein denaturation; Lipid melting; Phase transition; Differential scanning calorimetry (Bendzko, P.I. (29) 301)

Heavy-atom cluster
Ribosome; X-ray crystallography; Three-dimensional crystal; Image reconstruction; Subunit tunnel (Yonath, A. (29) 17)

Hemoglobin
Photodissociation; Time-resolved optical spectroscopy; Ligand-binding kinetics; Structural dynamics (Murray, L.P. (29) 63)

Data analysis; Ligand binding (Di Cera, E. (29) 351)

Histone-like protein
DNA; DNA-containing plasma; Prokaryotic nucleosome; Aggregation sensitivity; Chromatin (Kellenberger, E. (29) 51)

HPLC
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; Penicillin acylase; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Hydration shell
Nucleic acid hydration; Ultrasound velocity; Apparent molar volume; Apparent molar compressibility; Nucleic base (Buckin, V.A. (29) 283)

Hyper-sharp phenomenon
Muscle contraction; Myosin; Active diffusion; Computer simulation; Random walk (Kagawa, H. (29) 327)

Image reconstruction
Ribosome; X-ray crystallography; Three-dimensional crystal; Subunit tunnel; Heavy-atom cluster (Yonath, A. (29) 17)

Interfacial properties
β_2-Microglobulin; Protein unfolding; Water/mercury interface; Differential capacitance (Brabec, V. (29) 271)

Ion channel
Action potential; Axonal membrane; Na^+ flux; Solid-state conductance (Rosenbusch, J.P. (29) 79)

Postsynaptic potential; Membrane potential; Receptor activation (Gage, P.W. (29) 95)

Na^+-glutamate cotransport; K^+; H^+; Electrogenicity; Rate limitation (Kinne, R. (29) 105)

K^+
Na^+-glutamate cotransport; H^+; Electrogenicity; Rate limitation; Ion channel (Kinne, R. (29) 105)

Kinetics
Palladium complex; Reaction mechanism; Polycytidylic acid (Ménard, R. (29) 263)

Lactate dehydrogenase
Thermophilic enzyme; Temperature adaptation; Codon/anticodon; Evolution; Genetic code (Zuber, H. (29) 171)

Langmuir-Blodgett film
Excitation; Spontaneous oscillation (Yoshikawa, K. (29) 293)

Ligand binding
Data analysis; Hemoglobin (Di Cera, E. (29) 351)

Ligand-binding kinetics
Hemoglobin; Photodissociation; Time-resolved optical spectroscopy; Structural dynamics (Murray, L.P. (29) 63)

Light-energy transduction
Bacteriorhodopsin; Retinal; Photocurrent; Proton conduction; Bioenergetics (Keszthelyi, L. (29) 127)

Light scattering
Association constant; Macromolecular interaction (Zimmerman, J.K. (29) 231)

Limited proteolysis
Thermophilic enzyme; Thermolysin; Protein domain; Protein dynamics (Fontana, A. (29) 181)

Lipid melting
Protein denaturation; Heat capacity; Phase transition; Differential scanning calorimetry (Bendzko, P.I. (29) 301)

Liquid crystal
Chlorophyll *a*; Polarized resonance Raman spectrum; Order parameter; Distribution function (Wróbel, D. (29) 309)

Macromolecular interaction
Association constant; Light scattering (Zimmerman, J.K. (29) 231)

Macromolecular recognition
Bacterial surface protein; Outer membrane protein; Electron microscopy; Shape determination (Baumeister, W. (29) 39)

Mean squared optical anisotropy
Dipole moment; Molar Kerr constant; Polyglycine; Secondary structure; Unperturbed dimensions (Dolcet, C. (29) 253)

Mechanical properties
Collagen structure; Connective tissue; X-ray diffraction; Molecular packing; Fibril size distribution (Parry, D.A.D. (29) 195)

Membrane potential
Ca^{2+} channel; Neurotransmitter release (Parnas, I. (29) 85)

Ion channel; Postsynaptic potential; Receptor activation (Gage, P.W. (29) 95)

Donnan potential (Ohshima, H. (29) 277)

β_2-Microglobulin
Interfacial properties; Protein unfolding; Water/mercury interface; Differential capacitance (Brabec, V. (29) 271)

Mitochondria
H^+-ATP synthase; ATP synthesis (Martins, O.B. (29) 111)

Molar Kerr constant
Dipole moment; Mean squared optical anisotropy; Polyglycine; Secondary structure; Unperturbed dimensions (Dolcet, C. (29) 253)

Molecular modeling
Protein-protein interaction; Quaternary structure (Zielenkiewicz, P. (29) 219)

Molecular packing
Collagen structure; Connective tissue; Mechanical properties; X-ray diffraction; Fibril size distribution (Parry, D.A.D. (29) 195)

Muscle contraction
Myosin; Active diffusion; Hyper-sharp phenomenon; Computer simulation; Random walk (Kagawa, H. (29) 327)

Myosin
Muscle contraction; Active diffusion; Hyper-sharp phenomenon; Computer simulation; Random walk (Kagawa, H. (29) 327)

Na^+ electrochemical gradient
Amino acid gradient; (Mouse ascites tumour cell) (Eddy, A.A. (29) 119)

Na^+ flux
Action potential; Axonal membrane; Ion channel; Solid-state conductance (Rosenbusch, J.P. (29) 79)

Na^+-glutamate cotransport
K^+; H^+; Electrogenicity; Rate limitation; Ion channel (Kinne, R. (29) 105)

Neurotransmitter release
Ca^{2+} channel; Membrane potential (Parnas, I. (29) 85)

Nucleic acid hydration
Ultrasound velocity; Apparent molar volume; Apparent molar compressibility; Hydration shell; Nucleic base (Buckin, V.A. (29) 283)

Nucleic base
Nucleic acid hydration; Ultrasound velocity; Apparent molar volume; Apparent molar compressibility; Hydration shell (Buckin, V.A. (29) 283)

5′-Nucleotidase
ESR; Spin labeling (Fini, C. (29) 225)

Order parameter
Chlorophyll *a*; Polarized resonance Raman spectrum; Liquid crystal; Distribution function (Wróbel, D. (29) 309)

Oscillatory enzyme
Birhythmicity; Bursting; Chaos (Goldbeter, A. (29) 211)

Outer membrane protein
Bacterial surface protein; Electron microscopy; Shape determination; Macromolecular recognition (Baumeister, W. (29) 39)

Palladium complex
Kinetics; Reaction mechanism; Polycytidylic acid (Ménard, R. (29) 263)

Paramyosin
Catch mechanism; Filament network; Phosphorylation; Catch state; Relaxed state (Chen, G. (29) 147)

Penicillin acylase
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin G; Thermodynamics (Tewari, Y.B. (29) 245)

Penicillin G
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Thermodynamics (Tewari, Y.B. (29) 245)

Phase transition
Protein denaturation; Lipid melting; Heat capacity; Differential scanning calorimetry (Bendzko, P.I. (29) 301)

Phobic response
Cyanobacteria; Electric gradient; Gating channel; Phototaxis; Proton-motive force; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Phosphorylation
Paramyosin; Catch mechanism; Filament network; Catch state; Relaxed state (Chen, G. (29) 147)

Photocurrent
Bacteriorhodopsin; Retinal; Light-energy transduction; Proton conduction; Bioenergetics (Keszthelyi, L. (29) 127)

Photodissociation
Hemoglobin; Time-resolved optical spectroscopy; Ligand-binding kinetics; Structural dynamics (Murray, L.P. (29) 63)

Phototaxis
Cyanobacteria; Electric gradient; Gating channel; Phobic response; Proton-motive force; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Polarized resonance Raman spectrum
Chlorophyll *a*; Liquid crystal; Order parameter; Distribution function (Wróbel, D. (29) 309)

Polycytidylic acid
Palladium complex; Kinetics; Reaction mechanism (Ménard, R. (29) 263)

Polyglycine
Dipole moment; Mean squared optical anisotropy; Molar Kerr constant; Secondary structure; Unperturbed dimensions (Dolcet, C. (29) 253)

Postsynaptic potential
Ion channel; Membrane potential; Receptor activation (Gage, P.W. (29) 95)

Prokaryotic nucleosome
DNA; DNA-containing plasma; Histone-like protein; Aggregation sensitivity; Chromatin (Kellenberger, E. (29) 51)

Protein denaturation
Lipid melting; Heat capacity; Phase transition; Differential scanning calorimetry (Bendzko, P.I. (29) 301)

Protein domain
Thermophilic enzyme; Thermolysin; Limited proteolysis; Protein dynamics (Fontana, A. (29) 181)

Protein dynamics
Thermophilic enzyme; Thermolysin; Limited proteolysis; Protein domain (Fontana, A. (29) 181)

Protein-protein interaction
Molecular modeling; Quaternary structure (Zielenkiewicz, P. (29) 219)

Protein unfolding
β_2-Microglobulin; Interfacial properties; Water/mercury interface; Differential capacitance (Brabec, V. (29) 271)

Proton conduction
Bacteriorhodopsin; Retinal; Light-energy transduction; Photocurrent; Bioenergetics (Keszthelyi, L. (29) 127)

Proton-motive force
Cyanobacteria; Electric gradient; Gating channel; Phobic response; Phototaxis; (*Phormidium uncinatum*) (Häder, D.-P. (29) 155)

Qβ-replicase
Template-instructed replication; Biochemical kinetics; Stochastic center manifold treatment (Fernández, A. (29) 317)

Quantum-mechanical calculation
Electronic transition; Tryptophan; Ribonuclease T_1 (Ilich, P. (29) 341)

Quaternary structure
Protein-protein interaction; Molecular modeling (Zielenkiewicz, P. (29) 219)

Random walk
Muscle contraction; Myosin; Active diffusion; Hyper-sharp phenomenon; Computer simulation (Kagawa, H. (29) 327)

Rate limitation
Na^+-glutamate cotransport; K^+; H^+; Electrogenicity; Ion channel (Kinne, R. (29) 105)

Reaction mechanism
Palladium complex; Kinetics; Polycytidylic acid (Ménard, R. (29) 263)

Receptor activation
Ion channel; Postsynaptic potential; Membrane potential (Gage, P.W. (29) 95)

Relaxed state
Paramyosin; Catch mechanism; Filament network; Phosphorylation; Catch state (Chen, G. (29) 147)

Repressor-operator complex
DNA sequence recognition; DNA-protein binding; X-ray crystallography; Transcriptional regulation (Harrison, S.C. (29) 31)

Retinal
Bacteriorhodopsin; Light-energy transduction; Photocurrent; Proton conduction; Bioenergetics (Keszthelyi, L. (29) 127)

Ribonuclease T_1
Electronic transition; Tryptophan; Quantum-mechanical calculation (Ilich, P. (29) 341)

Ribosome
X-ray crystallography; Three-dimensional crystal; Image reconstruction; Subunit tunnel; Heavy-atom cluster (Yonath, A. (29) 17)

Secondary structure
Dipole moment; Mean squared optical anisotropy; Molar Kerr constant; Polyglycine; Unperturbed dimensions (Dolcet, C. (29) 253)

Shape determination
Bacterial surface protein; Outer membrane protein; Electron microscopy; Macromolecular recognition (Baumeister, W. (29) 39)

Solid-state conductance
Action potential; Axonal membrane; Ion channel; Na^+ flux (Rosenbusch, J.P. (29) 79)

Spin labeling
5′-Nucleotidase; ESR (Fini, C. (29) 225)

Spontaneous oscillation
Excitation; Langmuir-Blodgett film (Yoshikawa, K. (29) 293)

Stochastic center manifold treatment
Qβ-replicase; Template-instructed replication; Biochemical kinetics (Fernández, A. (29) 317)

Structural dynamics
Hemoglobin; Photodissociation; Time-resolved optical spectroscopy; Ligand-binding kinetics (Murray, L.P. (29) 63)

Structural transition
DNA topoisomerase; DNA supercoiling; intracellular DNA (Giaever, G.N. (29) 7)

Subunit tunnel
Ribosome; X-ray crystallography; Three-dimensional crystal; Image reconstruction; Heavy-atom cluster (Yonath, A. (29) 17)

Temperature adaptation
Thermophilic enzyme; Lactate dehydrogenase; Codon/anticodon; Evolution; Genetic code (Zuber, H. (29) 171)

Template-instructed replication
Qβ-replicase; Biochemical kinetics; Stochastic center manifold treatment (Fernández, A. (29) 317)

Thermodynamics
6-Aminopenicillanic acid; Calorimetry; Enthalpy; Entropy; Equilibrium constant; Gibbs energy; Heat capacity; HPLC; Penicillin acylase; Penicillin G (Tewari, Y.B. (29) 245)

Thermolysin
Thermophilic enzyme; Limited proteolysis; Protein domain; Protein dynamics (Fontana, A. (29) 181)

Thermophilic enzyme
Temperature adaptation; Lactate dehydrogenase; Codon/anticodon; Evolution; Genetic code (Zuber, H. (29) 171)

Thermolysin; Limited proteolysis; Protein domain; Protein dynamics (Fontana, A. (29) 181)

Three-dimensional crystal
Ribosome; X-ray crystallography; Image reconstruction; Subunit tunnel; Heavy-atom cluster (Yonath, A. (29) 17)

Time-resolved optical spectroscopy
Hemoglobin; Photodissociation; Ligand-binding kinetics; Structural dynamics (Murray, L.P. (29) 63)

Transcriptional regulation
DNA sequence recognition; DNA-protein binding; X-ray crystallography; Repressor-operator complex (Harrison, S.C. (29) 31)

Troponin
Ca^{2+} regulation; Ca^{2+}-receptor protein; Calmodulin; Actomyosin; Cytoplasmic streaming; (*Physarum polycephalum*) (Ebashi, S. (29) 137)

Tryptophan
Electronic transition; Ribonuclease T_1; Quantum-mechanical calculation (Ilich, P. (29) 341)

Ultrasound velocity
Nucleic acid hydration; Apparent molar volume; Apparent molar compressibility; Hydration shell; Nucleic base (Buckin, V.A. (29) 283)

Unperturbed dimensions
Dipole moment; Mean squared optical anisotropy; Molar Kerr constant; Polyglycine; Secondary structure (Dolcet, C. (29) 253)

Water
Cryobehavior; Cryoprotectant; Biopolymer; Gelation (Vincent, C. (29) 161)

Water/mercury interface
β_2-Microglobulin; Interfacial properties; Protein unfolding; Differential capacitance (Brabec, V. (29) 271)

X-ray crystallography
Ribosome; Three-dimensional crystal; Image reconstruction; Subunit tunnel; Heavy-atom cluster (Yonath, A. (29) 17)

DNA sequence recognition; DNA-protein binding; Repressor-operator complex; Transcriptional regulation (Harrison, S.C. (29) 31)

X-ray diffraction
Collagen structure; Connective tissue; Mechanical properties; Molecular packing; Fibril size distribution (Parry, D.A.D. (29) 195)

Electrical oscillation and fluctuation in phospholipid membranes. Phospholipids can form a channel without protein (BPC 01239)
K. Yoshikawa, T. Fujimoto, T. Shimooka, H. Terada, N. Kumazawa and T. Ishii (Japan) 293

Temperature-induced phase transitions in proteins and lipids. Volume and heat capacity effects (BPC 01240)
P.I. Bendzko, W.A. Pfeil, P.L. Privalov and E.I. Tiktopulo (Berlin-East, U.S.S.R.) 301

Resonance Raman spectra of chlorophylls dissolved in liquid crystal matrices. II. Order parameters of chlorophyll *a* in an MBBA + EBBA liquid crystalline mixture (BPC 01241)
D. Wróbel and M. Kozielski (Poland) 309

The onset of macroscopically detectable amplification of template concentration for self-replicating RNA (BPC 01242)
A. Fernández (U.S.A., F.R.G.) 317

An analysis of the hyper-sharp phenomenon of myosin diffusion in an F-actin/ATP solution by computer simulation (BPC 01244)
H. Kagawa, Y. Nagai and H. Asai (Japan) 327

Electronic transitions in molecules in static external fields. I. Indole and Trp-59 in ribonuclease T_1 (BPC 01245)
P. Ilich, P.H. Axelsen and F.G. Prendergast (U.S.A.) 341

On the determination of species fractions from ligand-binding data. Application to human hemoglobin (BPC 01246)
E. Di Cera and S.J. Gill (U.S.A.) 351

Author index 357

Subject index 359